

REMARKS

This is intended as a full and complete response to the Office Action dated November 17, 2004, having a shortened statutory period for response set to expire on February 17, 2005. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-7, 9-42, and 44-69 remain pending in the application and are shown above. Claims 1-7, 9-42, and 44-69 stand rejected. Reconsideration of the rejected claims is requested for reasons presented below.

Claim Rejections – 35 USC § 103

Claims 1-7, 9-31, 33-42, and 44-69 stand rejected under 35 USC § 103(a) as being obvious over *Lopatin et al.* (US Patent No. 6,368,954) in view of *Pavate et al.* (U.S. Publication No. 2002/0088716), on grounds that *Lopatin et al.* teaches a barrier layer of 20-300 angstroms formed by atomic layer deposition and *Pavate et al.* teaches copper seed layer having 0.01% to 5% aluminum to cause the bulk copper layer to be more resistance to electromigration. Applicant respectfully traverses the rejection.

US patents and patent applications which are prior art under 35 USC § 102(e)/103 are disqualified as prior art against the claimed invention if the claimed invention “were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person”. *Pavate et al.* is a published patent application, published subsequent to filing of the present application and is a reference only under 35 USC § 102(e)/103. Thus, the rejection can be removed by filing a statement of common ownership. Applicants respectfully submit herewith a statement of common ownership since the instant US patent application was filed on September 26, 2001, and *Pavate et al.* and the instant application (Serial No. 09/965,370) were, at the time the latter invention was made, owned by and subject to obligation of assignment to Applied Materials, Inc. of Santa Clara, California.

In addition, the other reference, *Lopatin et al.*, as stated by the Examiner, discloses only a barrier layer of 20-300 angstroms formed by atomic layer deposition and does not teach, show or suggest the subject matter as claimed in claims 1-7, 9-31,

33-42, and 44-69. Therefore, since *Pavate et al.*, is disqualified as prior art against the claimed invention upon the submission of the common ownership statement herewith, accordingly, withdrawal of the rejection is respectfully requested.

Applicants are submitting a reference EP 1130625 A2, related to *Pavate et al.*, since the Examiner considered *Pavate et al.*, to be relevant and since the reference published prior to filing this application.

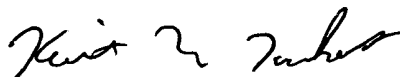
Claims 32, 42, and 44-69 stand rejected under 35 USC § 103(a) as being obvious over *Lopatin et al.* in view of *Pavate et al.*, and in further view of *Tsai et al.* (US Patent No. 6,309,964).

Lopatin et al. and *Pavate et al.* have been discussed above.

Tsai et al., as stated by the Examiner, discloses only a barrier layer of 10-500 angstroms and does not teach, show or suggest the subject matter as claimed in claims 32, 42, and 44-69. Therefore, since *Pavate et al.*, is disqualified as prior art against the claimed invention upon the submission of the common ownership statement herewith, accordingly, withdrawal of the rejection is respectfully requested.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,



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